



STIC Search Report

EIC 3700

STIC Database Tracking Number: 116709

TO: Urszula Cegielnik
Location: cp2 10c02
Art Unit: 3712

Case Serial Number: 10/693111

From: Jeanne Horrigan
Location: EIC 3700
CP2-2C08
Phone: 305-5934

jeanne.horrigan@uspto.gov

Search Notes

Attached are the search results for the doll accessories, including prior art searches in foreign and international patent databases; materials, products, and general sci/tech non-patent literature databases; and the Web via the Google and Scirus search engines.

I did not find anything on the Internet, but references to the use of polymer clay in relation to dolls and doll accessories showed up a lot. I just could not find the modulus of this material. Also, I understand that Polly Pocket, a current doll on the market, has something like rubbery clothes, but again, could not find anything written on the material used in the doll's accessories. I recommend that you review all of the results.

If you think it would be useful, I could do a more extensive search for polymer clay, and perhaps if it has the right modulus, you could put it together with articles on dolls' accessories made with it.

Also attached is a search feedback form. Completion of the form is voluntary. Your completing this form would help us improve our search services.

I hope the attached information is useful. Please feel free to contact me (phone 305-5934 or email jeanne.horrigan@uspto.gov) if you have any questions or need additional searching on this application.



STIC Search Results Feedback Form

EIC 3700

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

John Sims, EIC 3700 Team Leader
308-4836, CP2-2C08

Voluntary Results Feedback Form

➤ I am an examiner in Workgroup: Example: 3730

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC3700 CP2 2C08



SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Urszula Legielnik Examiner #: 77064 Date: 3/11/04
 Art Unit: 3712 Phone Number 301 65806 Serial Number: 10/693111
 Mail Box and Bldg/Room Location: CP2 10602 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Doll accessories

Inventors (please provide full names): Donald E. Toht and
Gary D. Aigner

Earliest Priority Filing Date: 10/24/2002

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

I am looking for all of the limitations of claim 1.

The article to be used with the doll is not limited to just clothes. It can be anything that can be used with a doll, furniture, other dolls (attachable), other accessories that are made of polymeric material having a modulus of greater than 100% 220 psi (1517 kNm^{-2})

MAR 11 2004

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>Jeanne Kerrigan</u>	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: _____	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

ASRC Searcher: Jeanne Horrigan
Serial 10/693111
March 17, 2004

1

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200417
File 347:JAPIO Nov 1976-2003/Nov(Updated 040308)
File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	7	AU='TOHT D':AU='TOHT D E'
S2	27	AU='AIGNER G':AU='AIGNER G D'
S3	1	S1 AND S2
S4	4868	DOLL OR DOLLS
S5	0	S1:S2 AND S4

3/26,TI/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

015555641

WPI Acc No: 2003-617796/200358

Play board for children, has support structures with braces that support
backing member at apexes in at least two different angles with respect to
base surface

ASRC Searcher: Jeanne Horrigan
Serial 10/693111
March 17, 2004

2

File 348:EUROPEAN PATENTS 1978-2004/Mar W01
File 349:PCT FULLTEXT 1979-2002/UB=20040311,UT=20040304

Set	Items	Description
S1	9	AU='TOHT DONALD E'

E1	1	AU=AIGNER FRITZ DIPL ING
E2	0	*AU=AIGNER GARY
E3	21	AU=AIGNER GEORG

1/6/1 (Item 1 from file: 348)
01507435
Toy vehicle magnetic coupler

1/6/2 (Item 2 from file: 348)
01077784
TOY VEHICLE LOGGING MILL ACCESSORY

1/6/3 (Item 3 from file: 348)
01077608
FOUR-WHEEL DRIVE TOY LOCOMOTIVE

1/6/4 (Item 4 from file: 348)
01057111
TOY VEHICLE SWITCH TRACK

1/6/5 (Item 5 from file: 348)
01055075
TOY VEHICLE TRACK COUPLING SUPPORT

1/6/6 (Item 1 from file: 349)
00507241 **Image available**
TOY VEHICLE LOGGING MILL ACCESSORY

1/6/7 (Item 2 from file: 349)
00507240 **Image available**
FOUR-WHEEL DRIVE TOY LOCOMOTIVE

1/6/8 (Item 3 from file: 349)
00495354 **Image available**
TOY VEHICLE SWITCH TRACK

1/6/9 (Item 4 from file: 349)
00489013 **Image available**
TOY VEHICLE TRACK COUPLING SUPPORT

File 635:Business Dateline(R) 1985-2004/Mar 13
File 47:Gale Group Magazine DB(TM) 1959-2004/Mar 15
File 148:Gale Group Trade & Industry DB 1976-2004/Mar 09
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Mar 15
File 16:Gale Group PROMT(R) 1990-2004/Mar 15
File 160:Gale Group PROMT(R) 1972-1989

Set	Items	Description
S1	0	(DON OR DONALD) (2W) TOHT
S2	0	TOHT AND DOLL? ?
S3	249	POLLY() POCKET
S4	193162	POLYMER??
S5	0	S3(S)S4
S6	0	S3 AND S4
S7	10733	MODULUS
S8	0	S3 AND S7
S9	555136	PLASTIC
S10	4	S3(S)S9
S11	4	RD (unique items)

11/6/1 (Item 1 from file: 47)
05295770 SUPPLIER NUMBER: 53256147 (USE FORMAT 7 OR 9 FOR FULL TEXT)
HOME FOR THE HOLIDAYS. (trouble with travel)
Dec, 1998
WORD COUNT: 1825 LINE COUNT: 00132

11/6/4 (Item 2 from file: 16)
04128149 Supplier Number: 46023974
Mattel Plans to Sell Its Own Brand of Software
Dec 25, 1995

11/3,AB,K/2 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.
07209032 SUPPLIER NUMBER: 14919676 (USE FORMAT 7 OR 9 FOR FULL TEXT)
License to sell. (toy marketing)
Snyder, Adam
Brandweek, v35, n7, p26(6)
Feb 14, 1994
ISSN: 1064-4318 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2384 LINE COUNT: 00179
ABSTRACT: Several factors can contribute to the successful marketing of new toys. Linking the product to a hit movie or television series can help, but it is often difficult to accurately predict the success of entertainment properties. Toys must be simple and straightforward to get kids interested in playing, but must also provide ongoing challenge and entertainment value.
... boys Mighty Max, into a \$100 million business. Both toys create play centers inside a plastic clam shell with tiny figures inside.
"These toys take a doll house or Fort Apache..."

11/3,AB,K/3 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.
04952908 Supplier Number: 47278418
Bluebird outsourcing all molding
Higgs, Richard

ASRC Searcher: Jeanne Horrigan
Serial 10/693111
March 17, 2004

4

Plastics News, p30
April 7, 1997

Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 298

TEXT:

Bluebird Toys plc, the British manufacturer of the globally popular **Polly Pocket** collectible **plastic** play set, is closing its last plant in the United Kingdom to outsource all production...

(FILE 'HOME' ENTERED AT 14:49:00 ON 16 MAR 2004)
FILE 'HCAPLUS' ENTERED AT 14:49:08 ON 16 MAR 2004

L1 363 S DOLL OR DOLLS OR PUPPET OR PUPPETS OR MARIONETTE?
L2 54999 S CLOTHES OR CLOTHING OR GARMET? OR APPAREL OR ACCESSORY OR
ACC
L3 132172 S MODULUS OR MODULI
L4 57117 S PSI OR KNM
L5 174 S KNM?
L6 1349072 S POLYMER OR POLYMERS OR POLYMERIC OR CHLORINATED OLEFIN? OR
ME
L7 31 S L1 AND L2
L8 1964 S L6 AND L3 AND (L4 OR L5)
L9 0 S L7 AND L8
L10 19 S L7 AND L6
L11 0 S L10 AND (S3 OR L4 OR L5)
L12 9 S L1(5N)L2 AND L10
L13 10 S L10 NOT L12
L14 0 S L1 AND L8
L15 3 S L1 AND (L3 OR L4 OR L5) AND L6
L16 3 S L15 NOT L10

L12 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:768195 HCAPLUS
DN 139:277958
TI Reversible thermochromic lace yarns comprising core yarns and flower
yarns
comprising synthetic fibers having thermochromic pigments with average
particle diameter 0.1-30 .mu.m adhered to the fibers

L12 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:585353 HCAPLUS
DN 139:118671
TI Reversible thermochromic knitted cords with lasting thermochromic
properties comprising knitted cords of synthetic fibers having dispersed
reversible thermochromic pigments adhered to the fibers

L12 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:26122 HCAPLUS
DN 136:71214
TI Thermochromic fabrics showing color change in cold or hot water
comprising
fabrics having a thermochromic layer of binder ***polymers***
containing thermochromic pigments dispersed in the binder and having the
surface and back of the fabrics treated with water repellents

L12 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:324295 HCAPLUS
DN 134:327832
TI Thermochromic fabrics having clear colors and reduced discoloration

L12 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:97182 HCAPLUS
DN 124:179166
TI Glossy heat-sensitive color-changeable laminates and their manufacture

L12 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1993:193531 HCAPLUS
DN 118:193531
TI **Synthetic conjugate fibers with reversible color change by heat and their manufacture**

L12 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:104701 HCAPLUS
DN 118:104701
TI **Synthetic conjugate fibers with reversible color change by heat**

L12 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:822246 HCAPLUS
DN 135:359258
ED Entered STN: 13 Nov 2001
TI **Toy sets and thermochromic image-forming markers**
IN Ono, Yoshiaki
PA Pilot Ink Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM A63H003-00
ICS A63H033-00; A63H033-22; C09D011-00
CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): 40
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001314661	A2	20011113	JP 2000-135470	20000509
PRAI JP 2000-135470		20000509		

AB The toy sets (e.g., *****dolls*****, stuffed animals) contain fabric clothings and thermochromic image-forming markers made of felt-tip pens filled with water-thinned inks (viscosity 2-30 mPa-s) comprising thermochromic pigment microcapsules contg. (A) electron-donating colorable org. compds., (B) electron-withdrawing compds., and (C) reaction solvents providing initiation temp. of color reaction of A and B. Thus, a *****doll***** swimwear was made from polyester fabrics and markers obtained from felt-tip pen filled with an ink comprising Cellosize WP 09L (hydroxyethyl cellulose) and microcapsules contg. 1,3-diethyl-6-diethylaminofluoran, 1,1-bis-(4-hydroxyphenyl)-2-ethylhexane, cetyl caprate, and Bu stearate. The color of the swimwear images reversibly changed from colorless at room temp. to orange in water at .ltoreq.15.degree..
ST thermochromic ink marker felt pen toy; polyester fiber fabric
*****doll*****
*****clothing*****; hydroxyethyl cellulose thermochromic dye water thinned ink
IT Acrylic *****polymers*****, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(coagulant; toy sets contg. thermochromic image-forming markers)
IT Toys
(*****dolls*****; toy sets contg. thermochromic image-forming markers)
IT Thermochromic materials

(dyes, inks; toy sets contg. thermochromic image-forming markers)
IT Pens
(fiber-tip; toy sets contg. thermochromic image-forming markers)
IT Belts
(for ~~***dolls***~~ ; etoy sets contg. thermochromic image-forming markers)
IT Bands and Ribbons
Clothing
(for ~~***dolls***~~ ; toy sets contg. thermochromic image-forming markers)
IT ***Clothing***
(swimwear, for ~~***dolls***~~ ; toy sets contg. thermochromic image-forming markers)
IT Dyes
(thermochromic, inks; toy sets contg. thermochromic image-forming markers)
IT Coagulants
(toy sets contg. thermochromic image-forming markers)
IT Polyester fibers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(toy sets contg. thermochromic image-forming markers)
IT Inks
(water-thinned; toy sets contg. thermochromic image-forming markers)

L12 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:582395 HCAPLUS
DN 119:182395
ED Entered STN: 30 Oct 1993
TI **Thermochromic plastic laminates and their uses in toys**
IN Matsunami, Nobuaki; Inagaki, Hiroshi
PA Pilot Ink Co., Ltd., Japan
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM B44F001-14
ICS B32B033-00; B41M005-28; A63H003-02
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 40

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 526019	A2	19930203	EP 1992-306263	19920708
	EP 526019	B1	19971001		
	R: DE, FR, GB, IT				
PRAI	JP 1991-61723		19910709		
	JP 1991-104115		19911122		
AB	The title laminates, useful for toys, comprise a thin transparent iridescent plastic film laminated on a thermochromic layer and exhibit a rainbow-colored pattern, the thermochromic layer showing a reversible color change with a change in temp. A thermochromic cotton cloth prepd. by screen printing with a thermochromic pigment showing a color change from black to colorless at 30.degree. was laminated with an acrylic resin emulsion-coated iridescent film (IF 8101) to give a thermochromic laminate which showed opal luster and was white and black, resp., above and below				

- 30.degree..
- ST thermochromism film laminate iridescence; toy laminate iridescence
thermochromism; ***doll*** ***clothing*** iridescence
thermochromism
- IT Polyamide fibers, uses
Polyester fibers, uses
RL: USES (Uses)
(fabrics, thermochromic ink-contg., laminates with iridescent films,
for toys)
- IT Thermochromic substances
(laminates contg., iridescent, for toys)
- IT Urethane ***polymers***, uses
RL: USES (Uses)
(leather substitutes, thermochromic, iridescent, for toys)
- IT Toys
(thermochromic iridescent laminated fabrics for manuf. of)
- IT Leather substitutes
(thermochromic, iridescent, polyurethane-based, for toys)
- IT Textiles
(cotton, thermochromic ink-contg., laminates with iridescent films,
for
toys)
- IT Toys
(***dolls***, garments for, thermochromic laminated fabrics for)
- IT 146104-17-8, IF 8101 150428-70-9, IF 5121 150428-83-4, RB 6001
RL: USES (Uses)
(films, iridescent, laminates with thermochromic materials, for toys)
- IT 9002-86-2, Poly(vinyl chloride)
RL: USES (Uses)
(laminates contg., thermochromic, iridescent, for toys)
- L13 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:707467 HCAPLUS
DN 137:233945
TI **Light-storing nonwoven fabrics with lasting luminescence and high degree
of brightness in dark comprising synthetic fibers containing rare
earth-doped strontium aluminate luminescent pigments**
- L13 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:667445 HCAPLUS
DN 137:202569
TI **Process and applications of thermochromic acrylic synthetic fibers**
- L13 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:268779 HCAPLUS
DN 136:296099
TI **Light-storing fibers showing pure whiteness under daylight or
illumination
and showing bright luminescence at dark comprising fibers contg. rare
earth-doped strontium aluminate and fluorescent brighteners**
- L13 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:482151 HCAPLUS
DN 135:78204
TI **Hardened fiber products for displays with good retention of hue, designs
and forms manufactured by impregnating fiber products with**

*****polymers*** and curing the ***polymers*** .**

L13 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:21488 HCAPLUS
DN 134:57897

TI **Temperature-sensitive color-changing fibers manufactured by melt spinning compositions comprising vinylidene chloride ***polymers*** and microcapsules containing thermochromic substances and manufacture thereof**

L13 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:752064 HCAPLUS
DN 131:352534

TI **Reversible thermochromic thermoplastic fiber braids containing pigment microcapsules containing electric-donating organic coloring compounds and electron-accepting compounds with good softness and lasting thermochromic properties**

L13 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:595456 HCAPLUS
DN 131:229983

TI **Fibers and bicomponent fibers made from .alpha.-olefin/vinyl or vinylidene aromatic and/or hindered cycloaliphatic or aliphatic vinyl or vinylidene interpolymers and fabric articles**

L13 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:377365 HCAPLUS
DN 127:35893

TI **Decorative thermochromic fabrics**

L13 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:408501 HCAPLUS
DN 122:163378

TI **Photochromic acrylic fibers and their manufacture**

L13 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:600276 HCAPLUS
DN 107:200276

TI **Synthetic filaments for wigs and ***doll*** hair**

L16 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:347660 HCAPLUS
DN 136:356310

ED Entered STN: 09 May 2002

TI **Sheath-core vinylidne chloride ***polymer*** conjugate fibers with good curl retention properties comprising vinylidene chloride ***polymers*** as one phase and thermoplastic ***polymers*** with density 0.85-1.00 as the remaining phase and ***doll*** hair and hair substitutes therefrom**

IN Yoshimoto, Masahide; Matsuoka, Tsutomu
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM D01F008-10

ICS A41G003-00; D02G003-02
CC 40-2 (Textiles and Fibers)
Section cross-reference(s): 62
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002129432	A2	20020509	JP 2000-318390	20001018
PRAI	JP 2000-318390		20001018		

AB The conjugate fibers (A) consist of a phase comprising vinylidene chloride

polymers and a phase comprising thermoplastic ***polymers*** with d. 0.85-1.00 , or the conjugate fibers comprise A fibers having the thermoplastic ***polymers*** consisting of polypropylene-type ***polymers*** with d. 0.85-1.00, or the conjugate fibers comprise A fibers having the vinylidene chloride ***polymers*** as the sheath.

A compn. contg. 95% 18.5:81.5 vinyl chloride-vinylidene chloride copolymer as the sheath and Sun-Allomer PM 604M (propylene ***polymer***) with d. 0.9 as the core were together melt spun at 50:50 ratio and drawn to draw ratio 4.2 in H2O at 52.degree. to give 1200-denier conjugate fibers with apparent ***modulus*** 2600 MPa and showing good retention of exterior curls for a long period on winding the fibers and keeping the tube for 2 days at 25 .+-. 3.degree..

ST vinylidene chloride ***polymer*** sheath core fiber curl retention enhancement; ***doll***—hair vinylidene chloride ***polymer*** sheath core fiber; hair substitute vinylidene chloride ***polymer*** sheath core fiber; propylene ***polymer*** vinylidene chloride ***polymer*** sheath core fiber manufg

IT Vinyon fibers
RL: PEP (Physical, engineering or chemical process); PRP (Properties);

PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(bicomponent with propylene ***polymer*** fibers; sheath-core conjugate fibers with good curl retention properties comprising vinylidene chloride ***polymers*** and thermoplastic ***polymers*** with specified d.)

IT Polypropene fibers, uses
Synthetic ***polymeric*** fibers, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties);

PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(bicomponent with vinylidene chloride copolymer fibers; sheath-core conjugate fibers with good curl retention properties comprising vinylidene chloride ***polymers*** and thermoplastic ***polymers*** with specified d.)

IT Toys
(***dolls***—, hair; sheath-core conjugate fibers with good curl retention properties comprising vinylidene chloride ***polymers*** and thermoplastic ***polymers*** with specified d.)

IT Hair substitutes
(sheath-core conjugate fibers with good curl retention properties comprising vinylidene chloride ***polymers*** and thermoplastic ***polymers*** with specified d.)

IT Synthetic ***polymeric*** fibers, uses

Vinyon fibers
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(vinyl chloride-vinylidene chloride, bicomponent with propylene ***polymer*** fibers; sheath-core conjugate fibers with good curl retention properties comprising vinylidene chloride ***polymers*** and thermoplastic ***polymers*** with specified d.)
IT 9011-06-7, Vinyl chloride-vinylidene chloride copolymer
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(fiber, bicomponent with propylene ***polymer*** core; sheath-core conjugate fibers with good curl retention properties comprising vinylidene chloride ***polymers*** and thermoplastic ***polymers*** with specified d.)
IT 115-07-1D, Propylene, ***polymers*** 25085-53-4, Sun-Allomer PM 604M
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(fiber, bicomponent with vinylidene chloride copolymer sheath; sheath-core conjugate fibers with good curl retention properties comprising vinylidene chloride ***polymers*** and thermoplastic ***polymers*** with specified d.)

L16 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:1006904 HCAPLUS

DN 124:90157

ED Entered STN: 30 Dec 1995

TI Vinylidene chloride ***polymer*** compositions for manufacture of fibers or films with increased stiffness

IN Takagi, Naoki; Matsuoka, Tsutomu

PA Asahi Chemical Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L027-08

ICI C08L027-08, C08L033-06; C08L027-08, C08L025-08

CC 40-2 (Textiles and Fibers)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07268162	A2	19951017	JP 1994-65874	19940404
	JP 3432579	B2	20030804	PRAI JP 1994-65874	19940404
AB	The compns. comprise vinylidene chloride (I) ***polymers*** and 1-30% ***polymers*** contg. 20-45% styrene units, 5-40% Bu acrylate (II) units, and 30-55% Me methacrylate (III) units and/or ***polymers*** contg. 20-40% styrene units and 60-80% III units, and are useful for manuf. of fibers for ****doll**** hair (no data) and films with increased ***modulus***. A blend comprising 85:15 I-vinyl chloride				

copolymer and 5% 30:30:40 styrene-II-III copolymer was melt spun to give fibers with good spinnability and 0 yarn breaks per 10 h and exhibiting tenacity 1.4 g/denier and stiffness 155 g/mm².

ST vinylidene chloride copolymer fiber stiffness; methacrylate
polymer vinylidene chloride ***polymer*** blend; film
vinylidene chloride ***polymer*** ***modulus*** ; ***doll***
hair vinylidene chloride ***polymer*** fiber; vinyon fiber stiffness

IT Vinyon fibers
RL: TEM (Technical or engineered material use); USES (Uses)
(manuf. with increased tensile strength and stiffness)

IT Synthetic fibers, ***polymeric***
RL: TEM (Technical or engineered material use); USES (Uses)
(vinylidene chloride ***polymer*** -(meth)acrylate ***polymer***
blends for increased tensile strength and stiffness)

IT Plastics, film
RL: TEM (Technical or engineered material use); USES (Uses)
(vinylidene chloride polymer-(meth)acrylate ***polymer*** blends;
with increased tensile strength and stiffness)

IT Toys
(***dolls*** , hair; vinylidene chloride ***polymer*** fibers
with increased stiffness for)

IT 9011-06-7, Vinyl chloride-vinylidene chloride copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(blends with (meth)acrylate ***polymers*** ; for fibers or films
with increased tensile strength and stiffness)

IT 25034-86-0, Methyl methacrylate-styrene copolymer 27136-15-8, Butyl
acrylate-methyl methacrylate-styrene copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(blends with vinylidene chloride ***polymers*** ; for fibers or
films with increased tensile strength and stiffness)

File 8: Ei Compendex(R) 1970-2004/Mar W1
File 34: SciSearch(R) Cited Ref Sci 1990-2004/Mar W1
File 434: SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 35: Dissertation Abs Online 1861-2004/Feb
File 65: Inside Conferences 1993-2004/Mar W2
File 94: JICST-EPlus 1985-2004/Mar W1
File 95: TEME-Technology & Management 1989-2004/Feb W5
File 99: Wilson Appl. Sci & Tech Abs 1983-2004/Feb
File 67: World Textiles 1968-2004/Feb
File 119: Textile Technol.Dig. 1978-2003/Jun
File 144: Pascal 1973-2004/Mar W1
File 248: PIRA 1975-2004/Feb W5
File 315: ChemEng & Biotech Abs 1970-2004/Feb
File 323: RAPRA Rubber & Plastics 1972-2004/Mar
File 583: Gale Group Globalbase(TM) 1986-2002/Dec 13

Set	Items	Description
S1	3234	DOLL OR DOLLS OR PUPPET? ? OR MARIONETTE? ?
S2	279426	CLOTHES OR CLOTHING OR GARMENT? ? OR APPAREL OR ACCESSOR???
		OR JEWELRY OR SHOES OR FURNITURE
S3	305025	ATTACH? OR FASTEN? OR AFFIX?
S4	54340	DON OR DONS OR DONNED OR DONNING OR PUT????() "ON"
S5	55496	DRESS???
S6	1850461	POLYMER? ? OR (CHLORINATED OR CLORINATED) (2W)OLEFIN?? OR M-
		ELT()PROCESS?(2W)RUBBER
S7	247998	MODULUS OR MODULI
S8	52339	PSI OR KNM
S9	281	S6 AND S7 AND S8
S10	3	S1:S2 AND S9
S11	0	S1 AND S10
S12	180	S1 AND S2
S13	33	S3:S5 AND S12
S14	1738	S2(2W)S3:S5
S15	2	S13 AND S14 [not relevant]

10/6/2 (Item 1 from file: 119)
0405741 06510/81
FOAMED SKI BOOT.
Patent Date: 19810120

10/6/3 (Item 1 from file: 323)
00366475
TITLE: MINERAL-FILLED PP FOR OUTDOOR FURNITURE

File 88:Gale Group Business A.R.T.S. 1976-2004/Mar 15
S1 1 POLYMER()CLAY AND MODULUS AND (PSI OR KNM?) [too recent]

File 9:Business & Industry(R) Jul/1994-2004/Mar 15
File 16:Gale Group PROMT(R) 1990-2004/Mar 16
File 148:Gale Group Trade & Industry DB 1976-2004/Mar 09
File 160:Gale Group PROMT(R) 1972-1989
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Mar 16
File 481:DELPHEs Eur Bus 95-2004/Feb W5
File 624:McGraw-Hill Publications 1985-2004/Mar 15
File 636:Gale Group Newsletter DB(TM) 1987-2004/Mar 16
File 20:Dialog Global Reporter 1997-2004/Mar 16
Set Items Description
S1 125040 DOLL OR DOLLS OR PUPPET? ? OR MARIONETTE? ?
S2 2508343 CLOTHES OR CLOTHING OR GARMENT? ? OR APPAREL OR ACCESSOR???
OR JEWELRY OR SHOES OR FURNITURE
S3 869851 ATTACH? OR FASTEN? OR AFFIX?
S4 4517896 DON OR DONS OR DONNED OR DONNING OR PUT????() "ON"
S5 593693 DRESS???
S6 276267 POLYMER? ? OR (CHLORINATED OR CLORINATED) (2W)OLEFIN?? OR M-
ELT() PROCESS? (2W) RUBBER
S7 13935 MODULUS OR MODULI
S8 72651 PSI OR KNM
S9 108 S6(S)S7(S)S8
S10 9795 S1(S)S2
S11 0 S9 AND S10
S12 879 S6(S)S8
S13 0 S10 AND S12
S14 26 S6 AND S10
S15 1 S6(S)S10
S16 25 S14 NOT S15
S17 15 RD (unique items)
S18 1 S17/2003:2004
S19 14 S17 NOT S18
S20 0 S7:S8 AND S19
S21 14 Sort S19/ALL/PD,A

15/3,K/1 (Item 1 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter
(c) 2004 The Dialog Corp. All rts. reserv.
12080818 (USE FORMAT 7 OR 9 FOR FULLTEXT)

PLACES TO GO, THINGS TO DO

SECTION TITLE: FEATURES

CHRISTCHURCH PRESS , 2 ed, p2

July 22, 2000

JOURNAL CODE: WTCP LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 590

DOLLS , BEARS, AND STUFF "Southern Teddy Bear and Doll Extravaganza" blazes the banner for a show at the Christchurch Convention Centre today and tomorrow, 10am to 4pm. Not just dolls and bears, but materials for all stages of their creation: patterns, kitses, antique laces, beads, polymer clay and fimo, and porcelain ware ready for painting and glazing. Besides these, furniture , miniatures, and more. To have a look: adults \$5, children over five \$3...

21/3,AB,K/4 (Item 4 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.
06121797 SUPPLIER NUMBER: 12674249 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Twentieth century blow molding. (history of blow molding materials and technology)

Dunham, Robert E.

Plastics Engineering, v48, n8, p21(5)

August, 1992

ISSN: 0091-9578

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT

WORD COUNT: 4429

LINE COUNT: 00373

TEXT:

... 1880s, celluloid was blown into items such as baby rattles, brush backs, ping pong balls, **doll** parts, cutlery handles, and jewelry. Methods involved softening sheets with heat or soaking in liquids...
...materials and products, but standardization was not accomplished by 1964.

The technology to really understand **polymer** properties was extensively enlarged during this period. Rheological, morphological...

21/3,AB,K/5 (Item 5 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)

(c) 2004 The Gale Group. All rts. reserv.

03163595 Supplier Number: 44321910

Industry leaders reveal PATHS TO SUCCESS for technology, joint ventures, exports, and quality

Canadian Plastics, p26

Jan, 1994

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 2769

... line is an ISO 9002 registration or equivalent for our plants.'

Nine years ago, BJB **Polymer** Systems Ltd. was formed as a consulting company, for the design and custom manufacture of...almost divided on a one to one, boy/girl basis.

The latest launch is a **doll** house, the Fantasy Home, which includes parts which the child assembles to make **furniture** and people. Ritvik is not missing out on the popularity of prehistoric animals and has...

COMPANY NAMES: BJB **Polymer** Systems; Provinciales; Ritvik Group; Uniplast Industries Ltd.

21/3,AB,K/6 (Item 6 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)

(c) 2004 The Gale Group. All rts. reserv.

05077470 Supplier Number: 47453550

Time crumbles plastic artifacts

Smith, Sarah S.

Plastics News, p1

June 9, 1997

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 1866

... the end of production in the 1950s, items such as combs, brushes, toiletry articles, toys, **dolls**, jewelry, false teeth, imitation patent leather, buttonhooks, golf balls and piano keys were made using...
experienced with cellulose nitrate] may not be unique," Reilly added. "This may happen to all **polymers** in a different way at different times. We're

just seeing the tip of the...

21/3,AB,K/12 (Item 12 from file: 20)
DIALOG(R) File 20:Dialog Global Reporter
(c) 2004 The Dialog Corp. All rts. reserv.
19618209

**Minnesota 'Geezers' Use Internet to Sell Handmade Art and Crafts;
Geezer.com Is Largest Web Site for Products Made by Seniors**

PR NEWSWIRE

November 01, 2001

JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 1086

WADENA, Minn., Nov. 1 /PRNewswire/ -- Glenn Laedtke, a senior artisan from Rochester, hand carves Victorian Santas from a log preserved for 200 years beneath Lake Superior. Laedtke is also one of 154 "geezers" from Minnesota who are selling their handcrafted products online at <http://www.geezer.com>, the only Web site that showcases the vitality and creative skills of older Americans.

Featuring 560 artisans from around the country, Geezer.com is the largest site on the Internet offering arts and crafts handmade by seniors. This unique nonprofit site not only helps senior entrepreneurs supplement their incomes and launch new businesses, it also provides carvers, tinsmiths, painters, woodworkers, quilters, doll and jewelry makers, and other talented seniors -- even those without computers or access to the Internet -- with a nationwide market for their products.

... was a "Rosie The Riveter" during World War II, assembling aircraft in Wichita Kansas. She **clothes** fashion dolls in elegant gowns with incredible detail. Some are actual reproductions of Jackie Kennedy...

File 766:(R)Kalorama Info Market Res. 1993-2000/Aug
S1 1 POLLY()POCKET AND (MODULUS OR PSI OR KNM OR POLYMER OR
RUBBER OR OLEFIN) [not relevant]

File 16:Gale Group PROMT(R) 1990-2004/Mar 16
File 20:Dialog Global Reporter 1997-2004/Mar 16
File 47:Gale Group Magazine DB(TM) 1959-2004/Mar 16
File 88:Gale Group Business A.R.T.S. 1976-2004/Mar 15
File 148:Gale Group Trade & Industry DB 1976-2004/Mar 10
File 635:Business Dateline(R) 1985-2004/Mar 16
File 645:Contra Costa Papers 1995- 2004/Mar 14
File 711:Independent(London) Sep 1988-2004/Mar 16
File 727:Canadian Newspapers 1990-2004/Mar 16
File 738:(Allentown) The Morning Call 1990-2004/Mar 15
File 757:Mirror Publications/Independent Newspapers 2000-2004/Feb 26
File 781:ProQuest Newsstand 1998-2004/Mar 16
File 993:NewsRoom 2002

Set	Items	Description
S1	23	POLLY()POCKET AND (MODULUS OR PSI OR KNM OR POLYMER OR RUB- BER OR OLEFIN)
S2	17	RD (unique items)
S3	2	S2/2003:2004
S4	15	S2 NOT S3
S5	15	Sort S4/ALL/PD,A

5/3,K/11 (Item 11 from file: 781)
DIALOG(R)File 781:ProQuest Newsstand
(c) 2004 ProQuest Info&Learning. All rts. reserv.
05337856 ASNS358970 (USE FORMAT 7 OR 9 FOR FULLTEXT)

The shoes with queues

Nilgin Yusuf

Evening Standard - London

Monday, June 28, 1999

DOCUMENT TYPE: Newspaper, Large LANGUAGE: ENGLISH RECORD TYPE:
FULLTEXT

Word Count: 652

TEXT:

BETS are currently being laid on next season's cult item. The **Polly Pocket** boot, a green nylon number (Barbour meets Barbarella), is sure to be one, as are...

...fashion assistant, went for a sportier look.

Last Saturday she bought a pair of black **rubber** flip-flops and some Pradaesque mesh sandals (GBP 34.99).

"Office are really quick at..."

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200417

File 347:JAPIO Nov 1976-2003/Nov(Updated 040308)

File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	5290	DOLL OR DOLLS OR PUPPET? ? OR MARIONETTE? ?
S2	332067	CLOTHES OR CLOTHING OR GARMENT? ? OR APPAREL OR ACCESSOR???
		OR JEWELRY OR SHOES OR FURNITURE
S3	1386781	ATTACH? OR FASTEN? OR AFFIX?
S4	45572	DON OR DONS OR DONNED OR DONNING OR PUT????() "ON"
S5	27520	DRESS???
S6	1481629	POLYMER? ? OR (CHLORINATED OR CLORINATED) (2W)OLEFIN?? OR M-
		ELT()PROCESS? (2W)RUBBER
S7	57834	MODULUS OR MODULI
S8	16084	PSI OR KNM
S9	1173	S6 AND S7 AND S8
S10	498	S1 AND S2
S11	1	S9 AND S10
S12	1	S1 AND S9
S13	0	S12 NOT S11
S14	26690	S7:S8 AND S6
S15	2	(S1 AND S2 AND S14) NOT S11

11/7,K/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012745266

WPI Acc No: 1999-551383/199946

**Structures and fabricated articles having shape memory, used for carpets,
doll hair, wigs, tampons, diapers, etc.**

Patent Assignee: DOW CHEM CO (DOWC)

Inventor: CHEUNG Y W; DIEHL C F; GUEST M J; HOENIG S M; SNEDDON J; STEWART
K B; TURLEY R R; CHUENG Y W

Number of Countries: 087 Number of Patents: 012

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9946327	A1	19990916	WO 99US5276	A	19990310	199946 B
AU 9930779	A	19990927	AU 9930779	A	19990310	200006
US 6156842	A	20001205	US 9877633	P	19980311	200066
			US 99265794	A	19990310	
NO 200004499	A	20001108	WO 99US5276	A	19990310	200067
			NO 20004499	A	20000908	
EP 1062273	A1	20001227	EP 99912396	A	19990310	200102
			WO 99US5276	A	19990310	
ZA 9901938	A	20001129	ZA 991938	A	19990310	200106
CN 1299395	A	20010613	CN 99805698	A	19990310	200158
KR 2001041801	A	20010525	KR 2000710076	A	20000909	200168
MX 2000008883	A1	20010301	MX 20008883	A	20000911	200170
BR 9908806	A	20011218	BR 998806	A	19990310	200209
			WO 99US5276	A	19990310	
JP 2002506105	W	20020226	WO 99US5276	A	19990310	200219
			JP 2000535700	A	19990310	
TW 479063	A	20020311	TW 99103670	A	19990702	200309

Priority Applications (No Type Date): US 9877633 P 19980311; US 99265794 A
19990310

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9946327 A1 E 121 C08L-023/08

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU
CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT UA UG US UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9930779 A Based on patent WO 9946327

US 6156842 A C08L-023/08 Provisional application US 9877633

NO 200004499 A C08L-025/02

EP 1062273 A1 E C08L-023/08 Based on patent WO 9946327

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE

ZA 9901938 A 119 C08L-000/00

CN 1299395 A C08L-023/08

KR 2001041801 A C08L-023/08

MX 2000008883 A1 A63H-003/44

BR 9908806 A C08L-023/08 Based on patent WO 9946327

JP 2002506105 W 138 C08L-023/08 Based on patent WO 9946327

TW 479063 A C08F-012/00

Abstract (Basic): WO 9946327 A1

NOVELTY - Novel **interpolymers** used in structures or fabricated articles having shape memory behavior that exhibit properties such as: the capacity to precisely tune its glass transition process (peak temperature, amplitude and width of transition) as well as its stiffness and the **modulus** of the material in its final state.

DETAILED DESCRIPTION - A structure or fabricated article with shape memory behavior comprises: -

(A) 1-100 wt. % of the combined weights of (A) and (B) of at least one substantially random **interpolymer** (1-100) having a melt index, I subscript 2, of 0.1-1000 g/10 minutes and an Mw/Mn of 1.5-20

comprising: (1) 38-65 mol. % of **polymer** units derived from: (i) at least one vinyl or vinylidene aromatic monomer; or (ii) at least one hindered aliphatic or cycloaliphatic vinyl or vinylidene monomer; or (iii) a combination of at least one aromatic vinyl or vinylidene monomer and at least one hindered aliphatic or cycloaliphatic vinyl or vinylidene monomer; and (2) 35-62 mol. % of **polymer** units derived from ethylene and/or at least one 3-20C alpha-olefin;

(B) 0-99 wt. % of the combined weights of (A) and (B) of at least one **polymer** other than that of (A);

(C) 0-50 wt. % of the combined weights of (A), (B), (C) and (D) of at least one tackifier; and

(D) 0-80 wt. % of the combined weights of (A), (B), (C) and (D) of at least one filler.

INDEPENDENT CLAIMS are also included for:

(a) a process for shaping and reshaping a structure or fabricated article from a **polymer** having an original **modulus** comprising: (I) one or more applications of an energy source to the **polymer**, as the above structure or fabricated article, which causes its **modulus** to decrease to below that of the original **modulus**; (II) shaping or conforming the structure or fabricated article into a prescribed position; and (III) removing the energy source which caused it to assume the prescribed position so as to regain the original **modulus**;

(b) a bicomponent fiber having shape memory behavior comprising: (I) 5-95 wt. % of a first component of the above mentioned structure or fabricated article; and (II) 5-95 wt. % of a second component

comprising: (A) an ethylene or alpha-olefin **homopolymer** or **interpolymer**; (B) an ethylene/propylene rubber (EPM), ethylene/propylene diene monomer **terpolymer** (EPDM) or isotactic polypropylene; (C) a styrene/ethylene-butene **copolymer**, a styrene/ethylene-propylene **copolymer**, a styrene/ethylene-butene/styrene (SEBS) **copolymer**, or a styrene/ethylene-propylene/styrene (SEPS) **copolymer**; (D) acrylonitrile-butadiene-styrene (ABS) **polymers**, styrene-acrylonitrile (SAN) or high impact polystyrene; (E) polyisoprene, polybutadiene, natural rubbers, ethylene/propylene rubbers, ethylene/propylene diene (EPDM) rubbers, styrene/butadiene rubbers or thermoplastic polyurethanes; (F) epoxies, vinyl ester resins, polyurethanes or phenolic resins; (G) **homopolymers** or **copolymers** of vinyl chloride or vinylidene chloride; and/or (H) poly(methylmethacrylate), polyester, nylon-6, nylon-6,6, poly(acetal), poly(amide), poly(arylate), poly(carbonate), poly(butylene) or polyethylene terephthalates;

(c) a fabric comprising the above bicomponent fiber;

(d) a fabricated article prepared from the above bicomponent fiber comprising carpets, **doll** hair, a wig, a tampon, a diaper, athletic sportswear, wrinkle free and form-fitting **apparel**, upholstery, bandages, and gamma-sterilizable non-woven articles; and

(e) a number of the above bicomponent fibers in the form of **doll** hair.

USE - Used in the manufacture of carpets, **doll** hair, wigs, tampons, diapers, athletic sportswear, wrinkle free and form-fitting **apparel**, upholstery, bandages, and gamma-sterilizable non-woven articles (all claimed).

ADVANTAGE - The obtained articles have shape memory behavior and properties such as: the capacity to precisely tune its glass transition process (peak temperature, amplitude and width of transition) as well as its stiffness and the **modulus** of the material in its final state.

pp; 121 DwgNo 0/0

Derwent Class: A13; A17; A18; A23; A60; A83; A84; A86; A96; D21; D22; F01; P34; P36

International Patent Class (Main): A63H-003/44; C08F-012/00; C08L-000/00; C08L-023/08; C08L-025/02

International Patent Class (Additional): A61L-015/24; A63H-009/00; C08K-003/00; C08L-023/02; C08L-025/00; C08L-025/06; D01F-006/28; D01F-006/30; D01F-008/06

Technology Focus:

... **POLYMERS** - ...

...Preferred **Polymer**: Component (B) is present in an amount of 0-90, preferably 0-50 wt. % of...

...1) a homogeneous **interpolymer** (preferably a substantially linear ethylene/alpha-olefin **interpolymer**);...

...2) a heterogeneous **interpolymer** (preferably a heterogeneous ethylene/3-8C alpha-olefin **interpolymer**);...

...3) a thermoplastic olefin (preferably an ethylene/propylene rubber (EPM), an ethylene/propylene diene monomer **terpolymer** (EPDM) or an isotactic polypropylene...

...4) a styrenic block **copolymer** (preferably a styrene/ethylene-butene **copolymer**, a styrene/ethylene-propylene **copolymer**, a styrene/ethylene-butene/styrene (SEBS) **copolymer**, or a styrene/ethylene-propylene/styrene (SEPS) **copolymer**);...

...5) a styrenic **copolymer** (preferably an acrylonitrile-butadiene styrene (ABS) **polymer**, a styrene-acrylonitrile (SAN) or a high impact

polystyrene...

...7) a thermoset **polymer** (preferably epoxies, vinyl ester resins, polyurethanes or phenolic resins...

...8) a vinyl halide **polymer** (preferably **homopolymers** or **copolymers** of vinyl chloride or vinylidene chloride); and...

...Preferred Fibers: The fibers are in the form of **doll** hair or a toy.

Preferred Bicomponent Fiber: The bicomponent fiber is of the sheath/core...

...preferably 5-50 wt. % of component (II) and comprises: (A) an ethylene or alpha-olefin **homopolymer** or **interpolymer**; (B) an ethylene/propylene rubber (EPM), ethylene/propylene diene monomer **terpolymer** (EPDM) or isotactic polypropylene; (C) a styrene/ethylene-butene **copolymer**, a styrene/ethylene-propylene **copolymer**, a styrene/ethylene-butene/styrene (SEBS) **copolymer**, or a styrene/ethylene-propylene/styrene (SEPS) **copolymer**; (D) acrylonitrile-butadiene-styrene (ABS) **polymers**, styrene-acrylonitrile (SAN) or high impact polystyrene; (E) epoxies, vinyl ester resins, polyurethanes or phenolic...

...polyethylene terephthalates; preferably it comprises one or more of: (A) an ethylene or alpha-olefin **homopolymer** or **interpolymer**; (B) a styrene/ethylene-butene **copolymer**, a styrene/ethylene-propylene **copolymer**, a styrene/ethylene-butene/styrene (SEBS) **copolymer**, or a styrene/ethylene-propylene/styrene (SEPS) **copolymer**; and (C) poly(methylmethacrylate), polyester, nylon-6, nylon-6,6, poly(acetal), poly(amide), poly...

...I) is the core. Component (II) is a sheath of polypropylene, polyethylene, an ethylene/octene **copolymer**, polyethylene terephthalate, polystyrene, nylon-6 and/or nylon-6,6. Component (A) is as above

Extension Abstract:

... Preferred **Interpolymer**: Component (A) is present in an amount of 10-100, preferably 50-100 wt. % of the combined weights of (A) and (B) and comprises at least one substantially random **interpolymer** having a melt index, I subscript 2, of 0.5-200, preferably 0.5-100...

...8-10, preferably 2-5. It comprises: (1) 45-55, preferably 48-55 mol. % of **polymer** units derived from: (i) the vinyl or vinylidene aromatic monomer of formula R1-C(Ar...

...vinylidene monomer, especially styrene in (i); and (2) 45-55, preferably 45-52 mol. % of **polymer** units derived from ethylene or at least one of propylene, 4-methyl-1-pentene, but...

...g/10 minutes was submitted to the shape memory test and found to have a **modulus** at 22 degrees C of 374665 **psi**, a **modulus** at 1 degree C of 425798 **psi**, a **modulus** at 49 degrees C of 3164, a **modulus** decrease of 99.26 %, a return time at 71 degrees F of greater than 60...

15/7,K/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

013600480

WPI Acc No: 2001-084687/200110

Shape memory hydro gel used as impact absorption material, is a mixture of crystalline monomer, amorphous monomers, one of which one is a fluorocarbon and has high modulus -low elasticity at specific temperature

Patent Assignee: OSADA Y (OSAD-I)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000313726	A	20001114	JP 99122720	A	19990428	200110 B

Priority Applications (No Type Date): JP 99122720 A 19990428

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2000313726	A	6	C08F-220/22	

Abstract (Basic): JP 2000313726 A

NOVELTY - Shape memory **polymer** hydro gel is a three component **copolymer** obtained by polymerizing a crystalline monomer and two kinds of amorphous monomers in which one component is a fluorocarbon, in the presence of a suitable crosslinking agent. The shape memory **polymer** hydro gel has high **modulus** -low elasticity at specific temperature.

USE - As impact absorption material, joining material of pipes and wires, sealant, exterior lamination material, splint material, bridging material, for toys, stationery material, teaching material, **accessories** material, medical agent capsule, bridging material for affected regions in medical field, for heat molding material, tooth form molding material, thaw display material, thermo sensor, artificial valve, material for manufacturing print material, surface printing material, recording material, display material and sustained release material, protector material for sports, **dolls**, artificial flower, molding material and for piezoelectric material.

ADVANTAGE - The **polymer** hydro gel regains its original shape after deformation within a short time. The gel does not have wide transition temperature range. The shape memory **polymer** hydro gel excels in durability. The hydro gel has high elasticity around 107-108 Pa.

pp; 6 DwgNo 0/0

Derwent Class: A14; A85; A88

International Patent Class (Main): C08F-220/22

International Patent Class (Additional): C08F-220/06; C08F-220/18

Extension Abstract:

... be 40degreesC. Elasticity of the gel was measured to be 1.6x107 Pa. Elasticity of **polymer** hydro gel was formed to be 1.1x105 Pa during fusing. Fracture distortion of the...

15/7,K/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

012932694

WPI Acc No: 2000-104541/200009

Gelatinous elastomeric material used for padding of carpets, construction materials, paint masking applications, disposable gloves and cushions

Patent Assignee: TEKSOURCE LC (TEKS-N)

Inventor: PEARCE T M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5994450	A	19991130	US 9621019	P	19960701	200009 B
			US 97783413	A	19970110	

Priority Applications (No Type Date): US 9621019 P 19960701; US 97783413 A 19970110

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5994450	A	44	C08L-053/02	Provisional application US 9621019

Abstract (Basic): US 5994450 A

NOVELTY - An elastomeric material consists of a plasticizer and a triblock **copolymer** A-B-A. A mixture containing 20 weight % (wt. %) of the triblock **copolymer** and 80 wt. % of toluene does not form a solution at 25-30 degreesC and the plasticizer associates with the hydrogenated **polymer** B of the triblock **polymer**. The triblock **copolymer** has predetermined percent elongation at break and rigidity.

DETAILED DESCRIPTION - An elastomer consists of a plasticizer and a triblock **copolymer** A-B-A.

A=monoalkenylarene **polymer** ; and

B=B=hydrogenated **polymer** containing isoprene monomers and butadiene monomers.

B contains at least 30 wt. % of each of isoprene and butadiene monomers. A mixture containing 20 wt. % of triblock **copolymer** and about 80 wt. % of toluene (based on the total weight of the mixture) does not form a solution at 25-30 degreesC. The triblock **copolymer** has a rigidity that can be measured on Gram Bloom scale and measurable percent elongation at break. The plasticizer increases the percent elongation at break and decreases the Gram Bloom rigidity of the triblock **copolymer**.

USE - As padding or backing for carpets and rugs, temporary roof repair materials, undercoating to prevent roof leakage, insulators, shatter resistant layer between window panes, plastic wrap and cushion for shoe insoles and inserts. Also in paint masking applications, protective covering applications, condoms, disposable gloves, balloons, mattresses, floor mat pads, car seat cushions, bicycle seat cushions, shoulder strap cushions, stadium cushions, wheel chair cushions, prosthesis pads, crutch pads, motor mount cushions, **furniture** cushions, pads for vibration dampening of machines, computer mouse, keyboard and wrist pads, protective gear padding. Also in medical applications such as wraps, bandages and hot/cold packs and in toys especially durable stretching-type **dolls**.

ADVANTAGE - The elastomer material may be cast, extruded, pressure-molded or formed into various shapes. The elastomer material need not be contained in a bladder. The percent elongation, rate of rebound and tensile strength of the elastomer are remarkably improved. The elastomer has no oil bleed, reduced track and decreased tackiness. The elastomer deforms easily under light loading and reforms instantaneously.

pp; 44 DwgNo 0/11

Derwent Class: A18

International Patent Class (Main): C08L-053/02

Technology Focus:

... **POLYMERS** - ...

...Elastomer: The elastomeric material is gelatinous and contains 60 wt. % of a plasticizer comprising plasticizing **polymers**. The elastomeric material contains the elastomer and the plasticizer in the ratio of 4:1...

...diameter of less than 2000 microns. The gelatinous elastomer additionally contains an additive. The triblock **copolymer**, plasticizer and additive are mixed to form the gelatinous elastomer...

...Preferred **Polymer** : The triblock **copolymer** contains 50 wt. % of B which comprises ethylene/propylene and ethylene/butylene. The mixture of the triblock **copolymer** and toluene has a viscosity of 1,00000 cps at 25-30 degreesC and the mixture remains as a solid under these conditions. The triblock **copolymer** solution containing 10% solids and 90% toluene and has a solution viscosity of 3040-5800 cps at 25

- degreesC. The triblock **copolymer** solution containing 5% solids and 95% solids has a viscosity of 90 cps. The triblock **copolymer** has a molecular weight (determined by gel permeation chromatography) of 300,000 or more. The mid block B of A-B-A is an elastomeric **polymer** having carbon backbone and side chains and is covalently linked to the end blocks A (which are non-elastomeric **polymers**)...
- ...modifiers, tensile strength modifiers and/or shrinkage inhibitors. The melt temperature modifier is a diblock **copolymer** A-B, triblock **copolymer** A-B-A, cross-linking agents or hydrocarbon resins. The **polymer** A has functionalized styrene monomers. The tack modifier is a surfactant, dispersant, emulsifier, hydrocarbon resins...
- ...butyl rubber, surfactants, emulsifiers or dispersants. The plasticizer bleed modifier is hydrocarbon resins, elastomeric diblock **polymers**, polyisobutylene, butyl rubber or transpolyoctylene rubber. The flame retardant is a (non)halogenated flame retardant...
- ...such as butyl rubbers, butadiene rubbers, ethylene/propylene rubbers and ethylene/butylene rubbers), polyisobutylene, triblock **copolymers** C-D-C (having greater molecular weight than A-B-C), particulate fillers, microspheres, surfactants...
- ...or liquid oligomers. The plasticizer increases the percent elongation at break elasticity of the triblock **copolymer** by a factor of two and decreases the Gram Bloom rigidity of the triblock **copolymer** by a factor of two...
- ...Preferred Material: The elastomer comprises plasticizer with several **polymer** molecules, elastomer with several triblock **polymers** of configuration A-B-A with two endblocks A and one block B. Each of midblock is covalently linked to one of endblock A where A=nonelastomeric **polymer**, B=elastomeric **polymer** and includes a carbon chain with several side chains...
- ...Preferred Properties: The plasticizing **polymer** molecules facilitate disentanglement and elongation of the mid blocks B during the elongation of the elastomer under a load. The plasticizing **polymer** molecules facilitate recontraction of the elastomer on releasing the load. The plasticizer reduce the Shore

Extension Abstract:

- ... was prepared. The elastomeric material expanded upto 2400% (700%) greater than a conventional elastomeric material. **PSI** at failure (tensile strength) of the material was 190. An elastomeric material (b) containing (in g) SEPTON 4055 (RTM) (1114.0), A-B **copolymer** (5.8), plasticizing resin (340.0), plasticizing oil (225.0), talc (as nucleating agent and...

File 348:EUROPEAN PATENTS 1978-2004/Mar W01

File 349:PCT FULLTEXT 1979-2002/UB=20040311,UT=20040304

Set	Items	Description
S1	2021	DOLL OR DOLLS OR PUPPET? ? OR MARIONETTE? ?
S2	76882	CLOTHES OR CLOTHING OR GARMENT? ? OR APPAREL OR ACCESSOR???
		OR JEWELRY OR SHOES OR FURNITURE
S3	601128	ATTACH? OR FASTEN? OR AFFIX?
S4	38229	DON OR DONS OR DONNED OR DONNING OR PUT????() "ON"
S5	19403	DRESS???
S6	361928	POLYMER? ? OR (CHLORINATED OR CLORINATED) (2W)OLEFIN?? OR M-
		ELT() PROCESS? (2W) RUBBER
S7	39322	MODULUS OR MODULI
S8	63203	PSI OR KNM
S9	240	S1(S)S2
S10	1601	S6(S)S7(S)S8
S11	0	S9(S)S10
S12	3	S9 AND S10
S13	7	S9(S)S6
S14	6	S7:S8 AND S13
S15	3	S14 NOT S12
S16	1	S13 NOT (S12 OR S15)

12/3,AB,K/1 (Item 1 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2004 European Patent Office. All rts. reserv.

00988200

Doll 's clothing

Puppenkleidung

Habit de poupee

PATENT ASSIGNEE:

Genie Toys plc, (2551491), 25 Imperial Square, Cheltenham,
Gloucestershire GL50 1QZ, (GB), (Proprietor designated states: all)

INVENTOR:

Norman, Casey William, 134 Cambridge Street, London, SW1V 4QF, (GB)
Norman, Torquil Patrick Alexander, 62 Gloucester Crescent, London, NW7
7EG, (GB)

LEGAL REPRESENTATIVE:

Hanson, William Bennett (83751), J.Y. & G.W. Johnson, Kingsbourne House,
229-231 High Holborn, London WC1V 7DP, (GB)

PATENT (CC, No, Kind, Date): EP 893150 A1 990127 (Basic)

EP 893150 B1 040211

APPLICATION (CC, No, Date): EP 98305778 980720;

PRIORITY (CC, No, Date): GB 9715596 970724; GB 9800856 980115

DESIGNATED STATES: DE; FR; IT

INTERNATIONAL PATENT CLASS: A63H-003/52

ABSTRACT EP 893150 A1

A **doll 's garment** is moulded from an elastomeric material or rubber,
to give greater realism. A set comprising a miniature **doll** with
articulated limbs and at least one **garment** therefor is also provided.

ABSTRACT WORD COUNT: 34

NOTE: Figure number on first page: 3E

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	199904	231
CLAIMS B	(English)	200407	272

CLAIMS B	(German)	200407	235
CLAIMS B	(French)	200407	332
SPEC A	(English)	199904	893
SPEC B	(English)	200407	912
Total word count - document A			1124
Total word count - document B			1751
Total word count - documents A + B			2875

SPECIFICATION The present invention relates to a **doll 's garment** and to a set comprising a **doll** and at least one **garment** therefor.

Traditionally, **doll 's clothes** are stitched from fabric, but this is impracticable for making **clothes** for **dolls** smaller than about 8 cm in height, due to the difficulty experienced in forming the stitches.

Various proposals have therefore been advanced for making articles simulating **doll 's clothing** from alternative materials. For example, US-A-4414774 describes fabricating such articles from plastics materials...
...bulky, cannot be fitted or removed in a life-like manner and are restricted to **dolls** of a particular shape. In addition, once the **doll** is clothed, its limbs cannot be moved so that the articles are unsuitable for **dolls** with articulated limbs.

In order to overcome at least some of these disadvantages, from a first aspect, the present invention provides a removable **doll 's garment**, characterised in that it is moulded from an elastomeric material or rubber.

The material may in particular be selected from ethylene vinyl acetate **copolymer** (EVA) and any of the **polymers** sold under the registered trade mark "Kraton" by Shell Chemical Co (such as (optionally hydrogenated) styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-diene, styrene-isoprene and styrene-butadiene block **copolymers**, styrene-ethylene-butylene block **copolymer** containing mineral oil, branched styrene **copolymer**, styrene-butadiene rubber, styrene-butadiene triblock rubber, styrene-isoprene-styrene linear block **polymer**, styrene-butadiene radial block **copolymer**, butadiene-styrene **copolymer** rubber, or synthetic rubber). Preferably, the average **modulus** of elasticity of the material is less than 1 MNm⁻²). More preferably, the 100% **modulus** of elasticity, measured at a standard test speed of 500 mm/min, is between 120 and 350 kNm⁻²), and still more preferably between 240 and 280 kNm⁻²). The 300% **modulus** of elasticity may lie between 440 and 490 kNm⁻²). Such values provide a material from which garments with sufficient realism can be moulded...

...moulded garments from the mould which the inventors have found to occur with highly elastic **polymers**.

Advantageously, the wall thickness of the garment is from 1 to 3 mm.

Preferably, the...

...be dip moulded.

From a second aspect, the invention provides a play set comprising a **doll** having articulated limbs and at least one **garment** for the **doll**, characterised in that the or each **garment** is moulded from an elastomeric material or rubber.

The doll is preferably articulated at the...

...example only, with reference to the accompanying drawings, in which:-

Figures 1a to 1g show **doll 's garments** according to embodiments of the invention;

Figures 2a to 2f show a doll according to...

...embodiment of the invention in various different positions; and

Figures 3a to 3f show the **doll** of Figures 2a to 2f dressed in the **garments** of Figures 1a to 1f respectively.

Figures 1a to 1g show various injection-moulded **garments** for a **doll** approximately 4 cm in height. More specifically, Figure 1a shows a dress, Figure 1b a...

...a jacket and a pair of slacks and Figure 1g a hat and coat. The **garments** are moulded from elastomeric materials or rubber and are therefore noticeably flexible and elastic, which provides a high degree of realism as compared with prior art **garment** -simulating articles. The realism is further enhanced by decorating the **garment** using paint, varnish, glitter etc. Additionally details such as belts, buttons, and collars are provided by the moulding process. In a particular example, the **garments** are moulded from clear Kraton and painted with a paint of which the modulus of...

...and is articulated at the shoulders, hips and knees.

Figures 3a to 3f show the **doll** of Figures 2a to 2f after fitting of the **garments** shown in Figures 1a to 1f respectively. Due to their elasticity, the **garments** can be fitted in a life-like way, i.e., jackets are donned "arms first" and dresses, trousers and skirts are stepped into. However, upper **garments** may more easily be donned over the feet due to the diameter of the **doll** 's head and the usual positioning of the arms. Once clothed, the **doll** 's limbs can still be moved. The **garments** are easily interchanged, even by younger children. One **garment** can be donned over another, e.g. a jacket over a dress.

Whilst particular embodiments have been described, the invention is not limited thereto. For example, **dolls** according to the invention can comprise male figures or figurines and non-human figures as well as female **dolls** . The **garments** can include suits, shirts, coats, shorts, cloaks, capes, uniforms, hats, **shoes** , helmets, armour and scarfs. In addition, the term "**garment** " as used in this specification should be understood to include any flexible article which can be fitted to the external surface of a **doll** , including second skins, outfits resembling other animals or creatures and moulded surfaces resembling rock, flames...

...SPECIFICATION B1

The present invention relates to a **doll** 's **garment** and to a set comprising a **doll** and at least one **garment** therefor.

Traditionally, **doll** 's **clothes** are stitched from fabric, but this is impracticable for making **clothes** for **dolls** smaller than about 8 cm in height, due to the difficulty experienced in forming the stitches.

Various proposals have therefore been advanced for making articles simulating **doll** 's clothing from alternative materials. For example, US-A-4414774 describes fabricating such articles from plastics materials...

...bulky, cannot be fitted or removed in a life-like manner and are restricted to **dolls** of a particular shape. In addition, once the **doll** is clothed, its limbs cannot be moved so that the articles are unsuitable for **dolls** with articulated limbs. US-A-3 783 554 shows labels defining **clothing** and being constructed of a rubber-like material.

In order to overcome at least some of these disadvantages, from a first aspect, the present invention provides a removable **doll** 's **garment** , characterised in that it is injection moulded from an elastomeric material or rubber and comprises...

...one integrally moulded detail.

The material may in particular be selected from ethylene vinyl acetate copolymer (EVA) and any of the **polymers** sold under the registered trade mark "Kraton" by Shell Chemical Co (such as (optionally hydrogenated) styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-diene, styrene-isoprene and styrene-butadiene block **copolymers** , styrene-ethylene-butylene block **copolymer** containing mineral oil,

branched styrene **copolymer**, styrene-butadiene rubber, styrene-butadiene triblock rubber, styrene-isoprene-styrene linear block **polymer**, styrene-butadiene radial block **copolymer**, butadiene-styrene **copolymer** rubber, or synthetic rubber). Preferably, the average **modulus** of elasticity of the material is less than 1 MNm⁻²). More preferably, the 100% **modulus** of elasticity, measured at a standard test speed of 500 mm/min, is between 120 and 350 kNm⁻²), and still more preferably between 240 and 280 kNm⁻²). The 300% **modulus** of elasticity may lie between 440 and 490 kNm⁻²). Such values provide a material from which garments with sufficient realism can be moulded...

...moulded garments from the mould which the inventors have found to occur with highly elastic **polymers**.

Advantageously, the wall thickness of the garment is from 1 to 3 mm.

From a second aspect, the invention provides a play set comprising a **doll** having articulated limbs and at least one **garment** for the **doll**, characterised in that the or each **garment** is injection moulded from an elastomeric material or rubber and comprises at least one integrally...

...example only, with reference to the accompanying drawings, in which:-

Figures 1a to 1g show **doll**'s **garments** according to embodiments of the invention;

Figures 2a to 2f show a **doll** according to...

...embodiment of the invention in various different positions; and

Figures 3a to 3f show the **doll** of Figures 2a to 2f dressed in the **garments** of Figures 1a to 1f respectively.

Figures 1a to 1g show various injection-moulded **garments** for a **doll** approximately 4 cm in height. More specifically, Figure 1a shows a dress, Figure 1b a...

...a jacket and a pair of slacks and Figure 1g a hat and coat. The **garments** are moulded from elastomeric materials or rubber and are therefore noticeably flexible and elastic, which provides a high degree of realism as compared with prior art **garment**-simulating articles. The realism is further enhanced by decorating the **garment** using paint, varnish, glitter etc. Additionally details such as belts, buttons, and collars are provided by the moulding process. In a particular example, the **garments** are moulded from clear Kraton and painted with a paint of which the modulus of...

...and is articulated at the shoulders, hips and knees.

Figures 3a to 3f show the **doll** of Figures 2a to 2f after fitting of the **garments** shown in Figures 1a to 1f respectively. Due to their elasticity, the **garments** can be fitted in a life-like way, i.e., jackets are donned "arms first" and dresses, trousers and skirts are stepped into. However, upper **garments** may more easily be donned over the feet due to the diameter of the **doll**'s head and the usual positioning of the arms. Once clothed, the **doll**'s limbs can still be moved. The **garments** are easily interchanged, even by younger children. One **garment** can be donned over another, e.g. a jacket over a dress.

Whilst particular embodiments have been described, the invention is not limited thereto. For example, **dolls** according to the invention can comprise male figures or figurines and non-human figures as well as female **dolls**. The **garments** can include suits, shirts, coats, shorts, cloaks, capes, uniforms, hats, **shoes**, helmets, armour and scarfs. In addition, the term "**garment**" as used in this specification should be understood to include any flexible article which can be fitted to the external surface of a **doll**, including second skins, outfits resembling other animals or creatures and moulded surfaces resembling rock, flames...

CLAIMS 1. A removable **doll**'s **garment**, characterised in that it is

moulded from an elastomeric material or rubber.

2. A **doll 's garment** according to claim 1, made from a material selected from ethylene vinyl acetate copolymer, (optionally... polymer, styrene-butadiene radial block copolymer, butadiene-styrene copolymer rubber, and synthetic rubber.
3. A **doll 's garment** according to claim 1 or 2, wherein the average modulus of elasticity of the material is less than 1 MNm-2).
4. A **doll 's garment** according to claim 3, wherein the 100% modulus of elasticity of the material is between 120 and 350 kNm-2).
5. A **doll 's garment** according to claim 4, wherein the 100% modulus of elasticity is between 240 and 280 kNm-2).
6. A **doll 's garment** according to any preceding claim, which has been decorated with paint or varnish.
7. A **doll 's garment** according to any preceding claim, comprising at least one integrally moulded detail such as a belt, button or collar.
8. A set comprising a **doll** having articulated limbs and at least one **garment** therefor, characterised in that the or each **garment** is moulded from an elastomeric material or rubber.
9. A set according to claim 8...

...CLAIMS B1

1. A **doll 's garment** made from an elastomeric material or rubber, characterised in that the **garment** is removable, in that it is injection moulded from said elastomeric material or rubber and in that it comprises at least one integrally moulded detail.
2. A **doll 's garment** according to claim 1, made from a material selected from ethylene vinyl acetate copolymer, (optionally... polymer, styrene-butadiene radial block copolymer, butadiene-styrene copolymer rubber, and synthetic rubber.
3. A **doll 's garment** according to claim 1 or 2, wherein the average modulus of elasticity of the material is less than 1 MNm-2).
4. A **doll 's garment** according to claim 3, wherein the 100% modulus of elasticity of the material is between 120 and 350 kNm-2).
5. A **doll 's garment** according to claim 4, wherein the 100% modulus of elasticity is between 240 and 280 kNm-2).
6. A **doll 's garment** according to any preceding claim, which has been decorated with paint or varnish.
7. A **doll 's garment** according to any preceding claim, wherein the at least one integrally moulded detail is a belt, button or collar.
8. A set comprising a **doll** having articulated limbs and at least one **garment** made from an elastomeric material or rubber therefor, characterised in that the or each **garment** is injection moulded from said elastomeric material or rubber and comprises at least one integrally...

12/3,AB,K/2 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00515083

FIBERS MADE FROM ALPHA-OLEFIN/VINYL OR VINYLIDENE AROMATIC AND/OR HINDERED CYCLOALIPHATIC OR ALIPHATIC VINYL OR VINYLIDENE INTERPOLYMERS

FIBRES FABRIQUEES A PARTIR DE COPOLYMERES AROMATIQUES D'ALPHA-OLEFINE/DE VINYLE OU DE VINYLIDENE ET/OU DE COPOLYMERES ENCOMBRES CYCLOALIPHATIQUES OU ALIPHATIQUES DE VINYLE OU DE VINYLIDENE

Patent Applicant/Assignee:

THE DOW CHEMICAL COMPANY,

TURLEY Robert R,

STEWART Kenneth B,
Inventor(s):

TURLEY Robert R,
STEWART Kenneth B,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9946435 A1 19990916

Application: WO 99US5285 19990310 (PCT/WO US9905285)

Priority Application: US 9877534 19980311

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV

MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG

US UZ VN YU ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM

AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM

GA GN GW ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 26861

English Abstract

The present invention pertains to fibers comprising: (A) from 50 to 100 wt. percent (based on the combined weights of Components A and B) of at least one substantially random interpolmer having an I2 of from 0.1 to 1,000 g/10 min, a density greater than 0.9300 g/cm³, and an Mw/Mn of 1.5 to 20; which comprises: (i) from 0.5 to 65 mol percent of polymer units derived from: (i) at least one vinyl or vinylidene aromatic monomer, or (ii) at least one hindered aliphatic or cycloaliphatic vinyl or vinylidene monomer, or (iii) a combination of at least one aromatic vinyl or vinylidene monomer and at least one hindered aliphatic or cycloaliphatic vinyl or vinylidene monomer, and (2) from 35 to 99.5 mol percent of polymer units derived from ethylene or at least one C3-20 alpha-olefin or a combination thereof; and (B) from 0 to 50 percent by weight (based on the combined weights of Components A and B) of at least one takifier. The fibers of the present invention could have applications such as carpet fibers, elastic fibers, **doll** hair, personal/feminine hygiene applications, diapers, athletic sportswear, wrinkle free and form-fitting **apparel**, conductive fibers, upholstery, and medical applications including, but not restricted to, bandages, gamma sterilizable non-woven fibers.

Fulltext Availability:

Detailed Description

Claims

Detailed Description

... 4,425,393

(Benedyk) discloses monofilament fiber made from polymeric material having an I

elastic **modulus** from 2,000 to 10,000 **psi**. which includes plasticized polyvinyl chloride (PVC), low density polyethylene (LDPE), thermoplastic rubber, ethylene-ethyl acrylate, ethylene-butylene **copolymer**, polybutylene and **copolymers** thereof, ethylenepropylene **copolymers**, chlorinated polypropylene, chlorinated polybutylene or mixtures of those. Many applications for such fibers require varying degrees... invention have applications such as chemical separation membranes, dust masks, carpet fibers, elastic fibers, wigs, **doll** hair, personal/feminine hygiene applications, diapers, athletic sportswear, shin pads, wrinkle free and form-fitting **apparel**, upholstery, and medical applications including, but not restricted to,

Claim

... 450 mmHg (60 kPa) of absolute pressure at the reactor pressure control

valve. This flashed **polymer** entered the first of two hot oil jacketed devolatilizers. The volatiles flashing from the first...
...dissolved gases in the solvent/styrene stream were used to calculate the ethylene conversion. The **polymer** and remaining solvent separated in the devolatilizer was pumped with a gear pump to a...
...pumped through another vacuum pump, and exported to a waste tank for disposal. The dry **polymer** (< 1 000 ppm total volatiles)
59 was pumped with a gear pump to an underwater...
...various catalysts, co-catalysts and process conditions used to prepare the various individual ethylene styrene **interpolymers** (ESI #'s 32 -34) are summarized in Table 5 and their properties are summarized in...8 4.13 168.2 2.9 31.51
Effect of Temperature on the Elastic **Modulus** of Substantially Random **Interpolymers** 1 5 The ESI samples were injection molded and their elastic **modulus** determined as function of temperature using an Instron tensile tester under ASTM Method D-63 8 at various temperatures. These data are summarized in Table 7.
60 Table 7. Elastic **Modulus** vs Temperature for ESI Samples
ESI Styrene Styrene 12 Tg Ternp **Modulus**
(Wt%) (MO%) (g/10min) ('C) CC) (dynes/crn2)
ESI 1 73 42 1.8 24...
...6 11.8 21.6 0.5
These data demonstrate the rapid change in the **modulus** as the temperature is increased above the **polymer** Tg. Effect of Temperature on the Elongation of Substantially Random **Interpolymers** . A sample of ESI I having a styrene content of 42 mol percent (73 wt...
...data demonstrate the rapid increase in percent elongation as the temperature is increased above the **polymer** Tg . Effect of Styrene Content on the Tiz of Substantially Random Ethylene/Styrene
IntePolymers
The Tg of a series of substantially random ethylene/styrene **interpolymers** having similar molecular weight (G 1.0) was measured and the data are summarized in...wt percent blend
1 5 The data in Table 9 demonstrate the increase in the **polymer** Tg as the styrene content of the substantially random ethylene/styrene **interpolymers** increases.
62
Effect of Molecular Weight on the Tg of Substantially Random Ethylene/Styrene
Inter- **polymers**
The Tg of a series of substantially random ethylene/styrene **interpolymers** having similar styrene content and a molecular weight as measured by Gottfert melt index, was...
...0 16.1
1 0 The data in Table 10 demonstrate the increase in the **polymer** Tg as the molecular weight of the substantially random ethylene/styrene **interpolymers** increases.
Effect of Added Tackifiers on the Ta and **Modulus** of Substantially Random Ethylene/Styrene **Interpolymers**
1 5 The tackifiers evaluated in the study, as well as properties obtained from trade...
...of Tackifiers Used in Present Invention
Tackifier Manufacturer Feedstock Mn Tg ('CT
Endex 155 Hercules **Copolymer** Modified Styrene 2@900 100
Piccotex 120 Hercules **Copolymer** Modified Styrene 11600 68

Regalrez 1139 Hercules Hydrogenated Styrenic 1@500 80
Kristalex 5140 Hercules **Copolymer** of pure monomer 1450 88
Plastolyn 140 Hercules Hydrogenated aliphatic hydrocarbon 370 90
A series...

...The data in Table 12 demonstrate that the Tg of the substantially random ethylene/styrene **interpolymers** increases with the addition of the tackifiers used in the present invention.

The **modulus** of ESI 25 and a blend of ESI 25 and Endex 155 tackifier was measured...

...in Table 13.

64

Table 13. Effect of 10 wt percent of Endex 155 on **Modulus** of ESI # 25 (42 mol- percent styrene, 1.8 Gottfert, Ta 23.61C)

Tackifier Temperature **Modulus**

(OC) (Psig)

None 20.0 11,600

33.0 290

Endex'I'M 155 20.0 4300

33.0 290

The data in Table 14 demonstrate that the **modulus** of the substantially random ethylene/styrene **interpolymers** decreases with the addition of the tackifiers used in the present invention.

Examples 1-5

Fibers were produced by extruding the **interpolymer** using a one inch diameter extruder which feeds a gear pump. The gear pump pushes...

...of 4/1. The gear pump is operated such that about 0.39 grams of **polymer** are extruded through each hole of the spinneret per minute. The melt temperature of the **polymer** is typically from about 200 1 5 - 240'C, and varies depending upon the molecular weight and styrene content of the **interpolymer** being spun. Generally the higher the molecular weight, the higher the melt temperature. Quench air...2 42 29.0 18.0

Examples 10 - 16

Fibers were prepared using ethylene/styrene **interpolymers** prepared essentially as for ESI's 7 -31 having the G Ws and styrene contents...

...Added Tackifiers and a Second Blend Component on the Ta of Substantially Random Ethylene/Styrene **Interpolymers**

Examples 17 - 21

Examples 17 - 21 are fibers prepared as for Example 1 from a...

...substantially random

ethylene/styrene **interpolymers** increases with the addition of the tackifier and the second **polymer** component described and used in the present invention.

Effect of Endex' 155 and Acrylic on **Modulus** at 20'C C and 33'C of ESI 25

Examples 22 - 25

A series...

...for Example I from blends of ESI 25,

EndexTm 155 and Acrylic (PMMA) and the **modulus** measured at 20'C and 33'C. The blend compositions and **modulus** data are summarized in Table 18.

Table 18. Effect of Endex' 155 and Acrylic on **Modulus** at 20'C and 33'C of Fibers Made From ESI 25 (73 wt i...

...CM3 Gottfert, Ty, = 23.6'C)

69

Example ESI # 25 Endex'I'M 155 Acrylic **Modulus** at 200C **Modulus** at 33'C

(Wt%) (Wt%) (Wt%) (**psi**) (**psi**)
Example 22 100 0 0 875000
Example 23 70 20 1 0 140,000
Example...
...58,000
1 1 10
The data in Table 18 demonstrate that both the ESI **interpolymer** and its blend with 10 wt % acrylic and 20 wt percent EndexTm 155 have an equivalent change in **modulus** above and below the Tg.
Examples 26 - 28
A series of fibers were prepared as...
...31.5
These data show the increase in Tg observed for samples prepared from these **interpolymers** .
Examples 29-43
A series of bicomponent fibers were prepared from ESI 35 and the following
second **polymer** components:
PP I - a 3 5 MFR Polypropylene available from Montell having the product designation...
...having the product designation Blend 9869, lot# 61418. PEI - a linear low density ethylene/octene **copolymer** having a melt index, 12, of 17.0 g/10 min and a density of 0.950 g/CM3. SAN2 - a styrene-acrylonitrile **copolymer** available from Dow Chemical having the 1 5 product designation TYRILTm I 00.
The substantially random ethylene/styrene **copolymer** ESI 35 was prepared using the same catalyst and polymerization procedures as ESI's 32...
...20. ESI 35 had a melt index, 12 of 0.94 g/10 min, an **interpolymer** styrene content of 77.42 wt percent (48.0 mol percent) and an atactic polystyrene...series of sheath core bicomponent fibers were produced by coextruding a substantially random ethylene/styrene **interpolymer** (ESI-35) as the core and a second **polymer** as the sheath. The fibers were fabricated using two 1.25 inch diameter extruders which...
...C, and varied depending upon the I 0 melting point and degradation temperature of the **polymer** components being spun. Generally the higher the molecular weight of the **polymers** , the higher the melt temperature. Quench air (about I 0 to about 30'C) was...
...32 Ex. 33
Bien Configuration Core Sheath Core Sheath Core Sheath Core Sheath Core Sheath
Polymer Type ESI Pp ESI PP, ESI PP ESI Pp ESI PE
Polymer Ratio (wt. %) 50 50 50 50 70 30 70 30 50 50
Extruder Temp. Zone...
...F) 282 282 286 1 286 286 286 286 286 1 284 282
Extruder Pressure (**psi**) 750 750 750 750 750 750 750 750 750
Pack Pressure (**psi**) 2070 1122 2720 1510 2720 1210 2860 1290 2270 1570
Meter Pump Speed (rpm) 5...Bico Configuration Core Sheat Core Sheath Core Sheath A Core A Sheath Core Sheath Core
Polymer Type ESI PE ESI PE ESI PE ESI PE ESI PET ESI
Polymer Ratio (wt. %) 60 40 70 30 70 30 70 30 70 30 90
Extruder Temp...
...ff) 284 282 1 284 282 294 282 290 283 297 295 301
Extruder Pressure (**psi**) 750 750 750 750 750 750 750 750 750 750
1480 2640 1190 2130 1037 2540
4@, Pack Pressure (**psi**) 2430 1520 2610 1480 2610
5.2 36.5 6.06 2.73 6.06...

...tensile testing device equipped with a type 4C (INSTRON #2714-004, 150 lb cap./90 **psi** max) jaw on the cross-head and a 100 lb load cell. The cross head...on the combined weights of Components A and B) of at least one substantially random **interpolymer** having an'2 of from 0. I to 1,000 g/10 min, a density...
...1.5 to 20; which comprises;
(1) from 0.5 to 65 mol percent of **polymer** units derived from;
(i) at least one vinyl or vinylidene aromatic monomer, or
(ii) at...
...or vinylidene monomer, and
1 3 (2) from 35 to 99.5 mol percent of **polymer** units derived from ethylene
or at least one C3.20 cc-olefin, or a combination...woven fabric.
12 A fabricated article prepared from the fiber of Claim 1, comprising carpet, **doll** hair, a tampon, a diaper, athletic sportswear, wrinkle free and form-fitting **apparel**, upholstery, bandages, and gamma sterilizable non-woven articles.
13 A plurality of the fibers of...fabric.
85
22 A fabricated article prepared from the fiber of Claim 14, comprising carpet, **doll** hair, a wig, a tampon, a diaper, athletic sportswear, wrinkle free and form-fitting **apparel**, upholstery, bandages, and gamma sterilizable non-woven articles.
23 A plurality of the fibers of...

15/3,AB,K/1 (Item 1 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

(c) 2004 European Patent Office. All rts. reserv.

00573229

Impact modified polymer blends.

Schlagzahmodifizierte Polymermischungen.

Melanges de polymeres modifies a l'impact.

PATENT ASSIGNEE:

ROHM AND HAAS COMPANY, (211420), Independence Mall West, Philadelphia
Pennsylvania 19105, (US), (applicant designated states:
BE;DE;ES;FR;GB;IT;NL)

INVENTOR:

Cohen, Leslie Alan, 55 Polder Drive, Langhorne, Pennsylvania 19053, (US)
Freed, William Thayer, 9 Edna Horn Drive, Stockton, New Jersey 08559, (US)

LEGAL REPRESENTATIVE:

Angell, David Whilton et al (27731), ROHM AND HAAS (UK) LTD. European
Operations Patent Department Lennig House 2 Mason's Avenue, Croydon CR9
3NB, (GB)

PATENT (CC, No, Kind, Date): EP 570135 A2 931118 (Basic)
EP 570135 A3 931208

APPLICATION (CC, No, Date): EP 93303386 930429;

PRIORITY (CC, No, Date): US 882337 920513

DESIGNATED STATES: BE; DE; ES; FR; GB; IT; NL

INTERNATIONAL PATENT CLASS: C08F-285/00; C08F-008/32; C08F-008/48;

ABSTRACT EP 570135 A2

Multistage impact modifiers for polyglutarimide and polyglutaric anhydride polymers which are resistant to reaction conditions typically found during production of the polyglutarimide and polyglutaric anhydride polymers comprise multi-stage polymer wherein the core comprises rubbery polymer, a subsequent stage is resistant to imidization and a further stage is compatible with the polyglutarimide, or glutaric anhydride

polymer matrix.

ABSTRACT WORD COUNT: 58

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
----------------	----------	--------	------------

CLAIMS A	(English)	EPABF1	539
----------	-----------	--------	-----

SPEC A	(English)	EPABF1	2579
--------	-----------	--------	------

Total word count - document A	3118
-------------------------------	------

Total word count - document B	0
-------------------------------	---

Total word count - documents A + B	3118
------------------------------------	------

...SPECIFICATION or three-stage core-shell all acrylic impact modifiers, polyvinylidene difluoride, and the like.

The **polymers** and blends of this invention may be used for automobile parts such as tail light...mowers and snowblowers, lawn edging, washing machine tubs, attache cases, suitcases, shades, pump components, modular **furniture** , baskets, bowls, pots and containers for plants, open-structured containers, and the like; non-woven fabrics useful as **clothing** , sheets, bandages, carpet backing, **doll** hair, webbing, strapping, rope, twine, bristles, rugs, and the like; clear blends useful for glazing...

...translucent or transparent food packaging, and the like; toys or recreational items such as molded **dolls** or toys, tricycle or bicycle components, interlocking building pieces, novelty items, encapsulated magnets, surfboards, boat...

...as noted; reaction zone temperatures were 275(degree) - 325(degree) C.; pressures were 500 - 850 **psi** . Following imidization, the blend was fabricated into notched Izod bars and Dynatup plaques using a...

...of notch at 23(degree)C.; Tensile strength in % elongation at break and yield in **psi** , and Dynatup impact maximum load in lbs. and total energy in in-lbs.

Although notched...

15/3,AB,K/2 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00763850

COMPOSITIONS COMPRISING HYDROGENATED BLOCK COPOLYMERS AND END-USE APPLICATIONS THEREOF

COMPOSITIONS COMPRENANT DES COPOLYMERES SEQUENCES HYDROGENES ET UTILISATIONS DE CEUX-CI

Patent Applicant/Assignee:

THE DOW CHEMICAL COMPANY, 2030 Dow Center, Midland, MI 48674, US, US

(Residence), US (Nationality)

Inventor(s):

DONALD Robert J, 5503 Winchester Court, Midland, MI 48642, US

HAHNFELD Jerry L, 920 Scenic Drive, Midland, MI 48642, US

PARSONS Gary D, 5016 Redfern Circle, Midland, MI 48642, US

HAHN Stephen F, 4302 James Drive, Midland, MI 48642, US

PATEL Rajen M, 114 Scarlet Oak, Lake Jackson, TX 77566, US

ESNEAULT Calvin P, 14776 Colonel Allen Court, Baton Rouge, LA 70816, US

PHIPPS Laura M, 3405 Overbrook Drive, Roanoke, VA 24018, US

PATE James E, 933 West Walter Road, Sanford, MI 48657, US

BHATTACHARJEE Debkumar, 54 Waterlily Court, Lake Jackson, TX 77566, US

Legal Representative:

ZETTLER Lynn M, Intellectual Property, P.O. Box 1967, Midland, MI

48641-1967, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200077094 A1 20001221 (WO 0077094)
Application: WO 2000US13898 20000519 (PCT/WO US0013898)
Priority Application: US 99139075 19990611; US 99146008 19990728; US
2000193313 20000330

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CZ DE DK
DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG UZ YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 22777

English Abstract

Flexible hydrogenated block copolymers can be successfully used in a variety of applications including films, profiles, sheets, coatings, injection molded articles, blow or rotational molded articles and extruded articles.

Fulltext Availability: Detailed Description

Detailed Description

... shear rate),

where: 2.15×10^6 dyne/cm² is the shear stress at 2500 psi (17.2 MPa), and the shear rate is the shear rate at the wall...centrifugal pump20 head.

Flexible hydrogenated block copolymer compositions have various advantages including high strength, low modulus, and elastic recovery. The following end-use applications advantageously utilize such flexible hydrogenated block copolymers...is related to injection molded articles produced from a composition comprising a flexible hydrogenated block copolymer. Injection molded articles include, but are not limited to, automotive articles such as bumper...

...materials. In the present invention, the co-injected materials typically include a rigid hydrogenated block copolymer, or other olefin, in combination with the flexible hydrogenated block copolymer. Other injection molded applications include major appliances (cavity seals, sumps, motor mounts, bumpers, vibration dampers...

...handles, grips, cushions, spacers, air supply components, washers, seals, cable hangers), toys, action figures, mechanical dolls (gears, cams, flexing components), hardware (wheels, treads, rollers, motor mounts, handles, shields, grips, pedals, pads, vibration dampers, accessory holders, tubing covers, isolators, nozzles), industrial equipment (wheels, casters, rollers, handles, connectors, grips, bellows, gaskets...

...boots, body side molding, lens gaskets, sound deadeners, grommets, seals, washers, poppets, bellows, radio and accessory knobs), medical (stoppers, valves, syringes, closures, bottles, labware, gaskets), electrical (pressure

37

switches, cable junction...door liners, automotive interior covers (instrument panel skins), gearshift covers, shipping containers, business and recreational furniture, planters, trash containers, whirlpool tubs, light globes, boats, canoes, camper tops, toys (hobbyhorses, dolls, sandboxes, small swimming pools, and athletic 38 balls), advertising

display signs, racks, and mannequins, produced from a composition comprising a flexible hydrogenated block **copolymer**. Methods of rotational molding and rotational/slush molding are described in *Plastics Engineering Handbook* of...
...and puncture resistance. By using more elastic copolymers, manufacturing can be achieved with very low **moduli**, high elongations, and low levels of permanent deformation. In addition, all of these copolymers can...47

54

43

TABLE 4

Ex. Tensile:Yield Tensile: Tensile: Tensile: Izod Izod
Ultimate Ultimate **Modulus** Unnotched Notched
Strength Elongation Nonbreak Nonbreak
MPa MPa % MPa J/m J/m

1 0...TABLE 8.

TABLE 8

1% 2%

Tensile Ultimate % Tensile Secant Secant
Yield Tensile Elong. Toughness **Modulus** **Modulus**
(MPa) (MPa) (MPa) (MPa) (MPa)

Polymer Polymer

25:75 68:32

100 0 To To...

...The resulting Platen Pressed films are optically clear and have good balance of toughness and **modulus**.

Example 37

A hydrogenated polymer having a weight ratio of hydrogenated conjugated diene polymer block Ultimate % Tensile Secant Secant

Yield Tensile Elong Toughness **Modulus** **Modulus**
(MPa) (MPa) (MPa) (MPa) (MPa)

Polymer Polymer

20:80 68:32

100 0 10.8...

...The resulting Platen Pressed films are optically clear and have good balance of toughness and **modulus**.

io Example 38

A hydrogenated polymer having a weight ratio of hydrogenated conjugated diene polymer...

...7 48.5

Toughness (MPa)

1 % Secant 786.0 599.8 1006.6 848.0

Modulus (MPa)

2% Secant 730.8 551.6 930.8 758.4

Modulus (MPa)

The resulting films are optically clear and have a good balance of toughness and **modulus**.

51

15/3,AB,K/3 (Item 2 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00511176

SHAPE MEMORY POLYMERS

POLYMERES A MEMOIRE DE FORME

Patent Applicant/Assignee:

MNEMOSCIENCE GMBH,

LANGER Robert S,
Inventor(s):

LANGER Robert S,
LENDLEIN Andreas,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9942528 A2 19990826

Application: WO 99US3923 19990223 (PCT/WO US9903923)

Priority Application: US 9875569 19980223

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ
VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH
CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW
ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 13340

English Abstract

Shape memory polymer compositions, articles of manufacture thereof, and methods of preparation and use thereof are described. The shape memory polymer compositions can hold more than one shape in memory. Suitable compositions include at least one hard segment and at least one soft segment. The Ttrans of the hard segment is preferably between -30 and 270 degreesC. At least one of the hard or soft segments can contain a cross-linkable group, and the segments can be linked by formation of an interpenetrating network or a semi-interpenetrating network, or by physical interactions of the blocks. Objects can be formed into a given shape at a temperature above the Ttrans of the hard segment, and cooled to a temperature below the Ttrans of the soft segment. If the object is subsequently formed into a second shape, the object can return to its original shape by heating the object above the Ttrans of the soft segment and below the Ttrans of the hard segment. The compositions can also include two soft segments which are linked via functional groups which are cleaved in response to application of light, electric field, magnetic field or ultrasound. The cleavage of these groups causes the object to return to its original shape.

Fulltext Availability: Detailed Description

Detailed Description

... melting point or glass transition

temperature of the soft segment. These properties include the elastic **modulus**, hardness, flexibility, vapor permeability, damping, index of refraction, and dielectric constant. The elastic **modulus** (the ratio of the stress in a body to the corresponding strain) of an SNIP...soft segments are

amorphous, the resulting polymer composition has poor shape memory characteristics.

The tensile **modulus** of the polymers below the Tts is typically between 50 NTa and 2 GPa (gigapascals), whereas the tensile **modulus** of the polymers above the Tt, is typically between 1 and 500 Wa. Preferably, I 0

SUBSTITUTE SHEET (RULE 26)

the ratio of elastic **modulus** above and below the Tu. is 20 or more. The higher the ratio, the better...as described above.

3. Non-Medical Applications

There are numerous applications for the shape memory **polymer** compositions other than biomedical applications. These applications include: shape memory **polymer** foams, members requiring deformation

restoration after impact absorption, such as bumpers and other autobody parts, packaging for foodstuffs, automatic chokes for internal combustion engines, **polymer** composites, textiles, humidity permeable **clothes**, such as

27

SUBSTITUTE SHEET (RULE 26)

sportswear, diapers and shoe inner lining materials, pipe...

...clamping pins, medical

instrument materials such as gyms, etc., stationary and educational materials, artificial flowers, **dolls**, internal laminates of rolls of dot printers for

computers, sound-proofing materials, members requiring deformation...such as coupling, etc., various heat shrinkable tubes,

makeup material for human use, shape memory **polymer** foams, fibers, **polymer** composites, seal and gaskets, autochoke valves, sound insulation, and oil spill recovery.

Shape memory foams...Table 6: Mechanical Properties of Polymer Films at 50 OC from Tensile Tests

Code E- **Modulus** σ_r σ_{ur} σ_{max} σ_{cymax}

RAN] RAN] 1%] [XVa]

PDC27 1.5 1@350 2.1...C7 at room temperature are shown below in Table 13, wherein E is the

elastic **modulus** (Young's **modulus**), σ_r is the elongation and σ_{ur} is the stress at the yield point, σ_{max} is...

16/3,AB,K/1 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00110122

BODY PUPPET AND TEACHING AID

VETEMENT FORMANT MARIONNETTE ET MATERIEL D'ENSEIGNEMENT

Patent Applicant/Assignee:

RAYL RICHARD N,

Inventor(s):

RAYL RICHARD N,

Patent and Priority Information (Country, Number, Date):

Patent: WO 8202325 A1 19820722

Application: WO 81US1743 19811224 (PCT/WO US8101743)

Priority Application: US 80221820 19801231

Designated States: AU JP AT CH DE FR GB LU NL SE

Publication Language: English

Fulltext Word Count: 2955

English Abstract

Relatively simple and low-cost body puppet (10) comprising a garment (12, 12A) worn about the trunk of a user which includes artwork and other indicia (14, 14A, 16, 16A, 18, 18A) depicting a humanized face and mouth. The garment (12) is formed of a substantially resilient material which when manually stretched by the hands of the user, causes the indicia (14, 14A, 16, 16A, 18, 18A) on the puppet (10) to momentarily distort and assume varying facial expressions. The body puppet (10) of the present invention is additionally adapted to serve as a teaching aid, permitting children to non-verbally communicate with others and predict and record the actual response of a viewer.

Fulltext Availability: Detailed Description

Detailed Description

... separates or spreads thereby simulating the opening and closing of the

mouth of the **puppet** 10. To-provide a biasing force which aids in maintaining the mouth indicia 18 in...

...position, a biasing patch 50 formed of a substantially semi-rigid material such as a **polymer**, plastic, or cardboard material is rigidly affixed to the undersurface of the **garment** 12A in the vicinity of the mouth indicia 18A. As best shown in Figures 5...

...of the semirigid material properties of the patch 50, the fabric material of the **garment** 12A is selectively rigidified in the locality of the mouth indicia 18A and maintained in...

...patch 50 and bonded about it's peripheral portion to the under surface of the **garment** 12A. Preferably, the graphic patch 50 is formed having a vertical dimension slightly greater than the dimensions of the biasing patch 50 such that the biasing patch 50 and fabric **garment** 12A in the vicinity of the mouth indicia 18A may be spread or stretched without...

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200417

Set	Items	Description
S1	1	POLYMER()CLAY AND MODULUS AND (PSI OR KNM?)

1/3,K/1

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014678762

WPI Acc No: 2002-499819/200253

Related WPI Acc No: 2002-425907; 2002-443974; 2002-463149; 2002-500841;

2002-527351; 2002-536564; 2002-546697; 2002-546698

XRAM Acc No: C02-141475

XRPX Acc No: N02-395770

Preparation of aqueous polymer clay nanocomposite dispersion used in thermoplastic resin coatings involves polymerizing aqueous mixture of acid containing monomer in presence of partially exfoliated unmodified clay

Patent Assignee: ROHM & HAAS CO (ROHM); CHOU C (CHOU-I); LAFLEUR E E

(LAFL-I); LORAH D P (LORA-I); NEGLIA K D (NEGL-I); SLONE R V (SLON-I)

Inventor: CHOU C; DUKES K N; LA FLEUR E E; LORAH D P; SLONE R V; LAFLEUR E E; NEGLIA K D

Number of Countries: 098 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200224760	A2	20020328	WO 2001US28994	A	20010917	200253 B
AU 200189119	A	20020402	AU 200189119	A	20010917	200253
US 20020086908	A1	20020704	US 2000234263	P	20000921	200253
			US 2001954132	A	20010917	
EP 1328555	A2	20030723	EP 2001968915	A	20010917	200350
			WO 2001US28994	A	20010917	
BR 200113995	A	20030812	BR 200113995	A	20010917	200367
			WO 2001US28994	A	20010917	

Priority Applications (No Type Date): US 2000234263 P 20000921; US 2001954132 A 20010917

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 200224760	A2	E	72	C08F-002/44	
--------------	----	---	----	-------------	--

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200189119	A			C08F-002/44	Based on patent WO 200224760
--------------	---	--	--	-------------	------------------------------

US 20020086908	A1			B01J-013/00	Provisional application US 2000234263
----------------	----	--	--	-------------	---------------------------------------

EP 1328555	A2	E		C08F-002/44	Based on patent WO 200224760
------------	----	---	--	-------------	------------------------------

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

BR 200113995	A			C08F-002/44	Based on patent WO 200224760
--------------	---	--	--	-------------	------------------------------

File 348:EUROPEAN PATENTS 1978-2004/Mar W01

File 349:PCT FULLTEXT 1979-2002/UB=20040311,UT=20040304

Set	Items	Description
S1	12	POLYMER()CLAY AND MODULUS AND (PSI OR KNM?)
S2	1839	DOLL OR DOLLS OR DOLLCLOTHES
S3	0	S1 AND S2
S4	1	POLYMER()CLAY/TI,AB AND MODULUS(S) (PSI OR KNM?)

4/3,AB/1 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2004 WIPO/Univentio. All rts. reserv.

00439027

POLYMER - ORGANOCCLAY -COMPOSITES AND THEIR PREPARATION

COMPOSITES POLYMERE-ARGILE ORGANIQUE ET SON PROCEDE DE PREPARATION

Patent Applicant/Assignee:

THE DOW CHEMICAL COMPANY,
ANDERSON Kenneth W,
WHITE Jerry E,
CHOU Chai-Jing,
POLANSKY Christine A,

Inventor(s):

ANDERSON Kenneth W,
WHITE Jerry E,
CHOU Chai-Jing,
POLANSKY Christine A,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9829491 A1 19980709

Application: WO 97US23861 19971222 (PCT/WO US9723861)

Priority Application: US 9634620 19961231

Designated States: BR CA CN CZ ID JP KR MX NO PL RU US AT BE CH DE DK ES FI
FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 7732

English Abstract

A polymer composite comprising a hydroxy-phenoxyether or polyester polymer matrix having dispersed therein layers of an inorganic material derived from a multilayered inorganic material having organophilic properties. The dispersion of the multilayered inorganic material in the polymer matrix is such that an increase in the average interlayer spacing of the layered inorganic material occurs. This increase in interlayer spacing occurs to a significant extent resulting in the formation of a nanocomposite. The polymers are preferably derived from a diglycidyl ether or ester or an epihalohydrin and a dinucleophile such as a dicarboxylic acid, a difunctional amine, a bisphenol or a sulfonamide. As the organophilic inorganic material clay minerals modified with organic ammonium compounds are used.

Fulltext Availability: Detailed Description